54437

# NL INDUSTRIES
# SAMPLING PLAN

EPA Site No.: 50061
TAT Work Order No: 2296
EPA Contract No: 68-01-7367

APPROVALS

Roy F. Weston, Inc.

| | | | |
|---|---|---|---|
| Carl Kelley<br>Task Leader | Date | Anibal Diaz<br>Quality Assurance<br>Officer | Date |

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# STANDING WATER SAMPLING PLAN
# NL INDUSTRIES

1. PROJECT NAME: NL Industries
Pedrickton
Salem County, NJ

2. PROJECT REQUESTED BY: Eugene Dominach
Removal Action Branch

3. DATE REQUESTED: February 14, 1991

4. DATE OF PROJECT INITIATION: November, 1989

5. PROJECT OFFICERS: Michael Mentzel, TAT II
Carl Kelley, TAT II

6. QUALITY ASSURANCE OFFICER: Anibal Diaz, TAT II

7. PROJECT DESCRIPTION:

A. Objective and Scope

The objective of this project is to provide data pertaining to the nature and relative quantity of inorganic contaminants found in the standing water at the NL Industries site.

The scope of the project entails collecting standing water samples from six discrete points. The following groups of samples will be taken to make the composites that will be sent for analysis (See Sampling Location Plan):

| Location | Area | Aliquots |
|---|---|---|
| Standing Water | 1 | 8 |
| Standing Water | 2 | 8 |
| Standing Water | 3 | 4 |
| Standing Water | 4 | 4 |
| Standing Water | 5 | 4 |
| Standing Water | Basement | 8 |

B. Data Usage:

The samples will provide information as to the extent of contamination of the standing water on-site. This information will be used to determine the best method of treatment and/or disposal. In addition, information obtained will be used to form removal action estimate and cost analysis for complete remediation at the site.

C. Parameter Table:

| PARAMETER | # OF SAMPLES | SAMPLE MATRIX | SAMPLE PREP | ANALYTICAL MTD. REF. | SAMPLE PRESERV. | HOLDING TIME | VOLUME |
|---|---|---|---|---|---|---|---|
| TSS | 8 | Liquid | None | 160.2 | None | N/A | 1x1 L |
| COD | 8 | Liquid | None | 410.2 | None | 48 hrs | 50 ml |
| BOD | 8 | Liquid | None | 405.1 | Cool to 4°C | 28 hrs | 1000 ml |
| Metals | 8 | Liquid | 3010 | 7000 | Cool to 4°C $HNO_3$ to pH<2 | 180 days* | 8 oz |
| pH | 8 | Liquid | None | 9040 | None | N/A | 200 ml |

* Cn has a holding time of 14 days
Hg has a holding time of 28 days

8. PROJECT FISCAL INFORMATION:

Sampling equipment and manpower shall be provided by the Technical Assistance Team (TAT) in coordination with the U.S. EPA. All man-hours expended by TAT will be charged to TDD 02-8911-0108. Analysis will be accomplished through the Contract Lab Program (CLP).

9. PROJECT ORGANIZATION AND RESPONSIBILITY:

The following is a list of key project personnel and their corresponding responsibilities:

| | |
|---|---|
| Eugene Dominach USEPA | Project Director |
| Michael Mentzel, TAT II | Overall Project Coordination<br>Sampling QC |
| Carl Kelly, TAT II | Sampling Operations |
| Anibal Diaz, TAT II | Laboratory Coordination & QC |

10. SAMPLING PROCEDURES:

Sample collection will be accomplished with a sample bottle attached to a long pole. The samples will be collected from several different areas of the standing water in six different locations (see Sample Location Map).

11. SAMPLE CUSTODY PROCEDURES:

Each sample must be accurately and completely identified. It is important that any label be moisture resistant and able to withstand field conditions. Sample containers will be labeled prior to sample collection. The information on each label should include the following, but is not limited to:

i. Date of collection
ii. Site name
iii. Sample identity/location
iv. Analysis requested

EPA Chain-of-Custody will be filled out and maintained throughout the entire site activities as per TAT SOP on sample handling, Sampling Container Contract specifications, and EPA Laboratories SOP. The Chain-of-Custody form to be used lists the following information:

i. Project name;
ii. Sample number;
iii. Number of sample containers;
iv. Description of samples including specific location of sample collection;
v. Identity of person collecting the sample;
vi. Date and time of sample collection;
vii. Date and time of custody transfer to laboratory (if the sample was collected by a person other than laboratory personnel);
viii. Identity of person accepting custody (if the sample was collected by a person other than laboratory personnel);
ix. Identity of the lab performing the analyses.

Each of the sample bottles will be sealed and labeled according to the following protocol. Caps will be secured with custody seals. Bottle labels will contain all required information including sample number, time and date of collection, analysis requested, and preservative used. Sealed bottles will be placed in large metal or plastic coolers, and padded with an absorbent material such as vermiculite.

All sample documents will be affixed to the underside of each cooler lid. The lid will be sealed and affixed on at least two sides with EPA custody seals so that any sign of tampering is easily visible.

12. DOCUMENTATION, DATA REDUCTION AND REPORTING:

Field data will be entered into a bound notebook. Field notebooks, field data sheets, Chain-of-Custody forms, and laboratory analyses reports will be filed and stored per the TAT Document Control System.

13. QUALITY ASSURANCE AND DATA REPORTING:

QA/QC to be furnished by the contracted laboratory in performance of the analysis will (at a minimum) consist of the following measures to ensure accurate data:

1. One field blanks for each type of equipment per day will be shipped to the laboratory. These blanks, are to be prepared prior to the sampling events on each day and analyzed in order to ensure that no contamination has occurred during sampling.

2. A blind duplicate will be submitted for every 20 samples to check the analytical precision.

3. Matrix spike and matrix spike duplicate analysis will also be performed on one sample for every 20 samples collected for the metals analysis. Triple volume will be collected at one sample location to allow for the MS/MSD determination.

4. The contracted laboratory will also furnish the following deliverables as warranted:

   a) Calibration standard

   b) Copies of all spectral data obtained during performance of analysis. Copies should be signed by the analyst and checked by the Laboratory Manager.

   c) Data System Printout.

   d) Manual work sheets.

   e) Identification and explanation of any analytical modifications used that differ from USEPA protocol.

All results are to be completed and a written report - submitted by the lab to the TAC QC officer within two (2) weeks of the Validated Time of Sample Receipt (VTSR).

14. DATA VALIDATION:

All steps of data generation and handling will be evaluated by the Project Officer and the Quality Assurance Officer for compliance with the specified requirements. ESD-MMB will perform data validation using current protocol.

15. SYSTEM AUDIT:

The Quality Control Officer will observe the sampling operations and subsequent analytical data to assure that the QA/QC project plan has been followed.

16. CORRECTIVE ACTION:

All provisions will be taken in the field and laboratory to ensure that any problems that may develop will be dealt with as quickly as possible. This will be done to ensure the continuity of the sampling program. Any deviations from this sampling plan will be noted in the final report.

17. REPORTS:

Laboratory results and all requested QA/QC information will be submitted to EPA upon completion of sample analyses. Sampling reports will be issued after receipt of laboratory results.